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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/507,955	02/22/2000	John D. Begin	60314-133	2813

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EXAMINER	
NGUYEN, PHUNG	
ART UNIT	**PAPER NUMBER**
2632	

DATE MAILED: 03/29/2004

25

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/507,955	BEGIN ET AL.	
	Examiner	Art Unit	
	Phung T Nguyen	2632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 5-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, 3, and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lowe et al. in view of McLaughlin et al. [U.S. Pat. 6,243,007].

Regarding claim 1: Lowe et al. disclose a transponder system for reporting the distance traveled by a wheeled vehicle comprising a wireless transmitter 28 generating a wireless signal indicative of a vehicle displacement; and a wireless receiver 26 receiving the wireless signal from the transmitter (figure 2, col. 3, lines 5-37). Lowe et al. do not show the transmitter including a power source and periodically generating a wireless signal as claimed. It is seen that whether the transmitter continuously or periodically transmits the wireless signal is old and known in the art. Furthermore, McLaughlin et al. disclose a tire monitoring system comprising the monitoring device 16 including a long-life lithium battery (figure 1, col. 4, lines 33-37) and a transmitter periodically transmits the wireless signal (col. 5, lines 5-16). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Lowe et al. and McLaughlin et al. because they both teach a sensor which is mounted directly on the wheel. The teaching of McLaughlin et al. of providing power to the device would increase the flexibility of the Lowe et al. system by having the monitoring device including power source and is mounted on the tire of the vehicle.

Regarding claims 2 and 3: Lowe et al. disclose the transmitter 28 is mounted on a rotating component of a vehicle (col. 3, lines 2-4).

Regarding claim 7: Lowe et al. disclose the transmitter 28 (figure 2, col. 3, lines 5-28) generating an RF signal.

Regarding claims 8 and 9: Lowe et al. disclose the sensor 30 (figure 2, col. 3, lines 51-67) for generating a signal indication of the number of wheel rotation. Lowe et al. do not show the fixed number of beacon signal is one as claimed. However, it would have been an obvious design choice to have the transmitter generating beacon signal once for each revolution. Note that the system of Lowe et al. is capable of counting revolution, storing the revolution count information, and transmitting revolution count information.

Regarding claim 10: Lowe et al. disclose the transmitter 28 (col. 2, lines 62-67, and col. 3, lines 1-18) generating a modulated RF signal indicative of vehicle displacement.

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowe et al. in view of McLaughlin et al. and further in view of Huang [U.S. Pat. 6,175,302]

Regarding claim 5: McLaughlin et al. teach along life lithium battery (col. 4, lines 33-35) but the combination does not teach the power source generates power based upon motion as claimed. However, Huang discloses a tire pressure indicator including pressure gauges that have a self-generating power capability comprising the power source generates power based upon motion (col. 3, lines 47-63). Therefore, it would have been obvious to the skilled artisan to utilize the teaching of Huang in the system of the Lowe et al. and McLaughlin et al. because using the rechargeable battery would be an advantage.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowe et al. in view of McLaughlin et al. and further in view of Miller et al. [U.S. Pat. 4,694,295]

Regarding claim 6: Lowe et al. disclose the transmitter 28 (figure 1, col. 3, lines 28-37) for generating a signal. The combination fails to disclose the transmitter generating an acoustic signal. However, Miller et al. disclose a vehicle blind spot detector comprising the transducer 22 (figure 2, col. 4, lines 7-18) including a piezo-electric element for generating an acoustic signal. Therefore, it would have been obvious to the skilled artisan to use the readily piezo-electric element of Miller et al. in the system of Lowe et al. and McLaughlin et al. for generating the acoustic signal.

5. Claims 11, 12, 15-18, and 21-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lowe et al. in view of McLaughlin et al. and further in view of Davis et al. [U.S. Pat. 5,177,685].

Regarding claim 11: Lowe et al. disclose a transponder system for reporting the distance traveled by a wheeled vehicle comprising a wireless transmitter 28 generating a wireless signal indicative of a vehicle displacement; and a wireless receiver 26 receiving the wireless signal from the transmitter (figure 2, col. 3, lines 5-37). Lowe et al. do not show the transmitter periodically generating a wireless signal as claimed. It is seen that whether the transmitter continuously or periodically transmits the wireless signal is old and known in the art. Furthermore, McLaughlin et al. disclose a tire monitoring system comprising a transmitter periodically transmits the wireless signal (col. 5, lines 5-16). Therefore, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Lowe et al. and McLaughlin et al. because they both teach a sensor which is mounted directly on the wheel. The teaching of McLaughlin et al. of periodically transmitting the wireless signal would enhance the system of Lowe et al. by saving power.

Lowe et al. disclose means 28 for generating a wireless signal indicative of rotational displacement; and a wireless receiver 26 receiving the wireless signal (figure 2, col. 3, lines 5-37). The combination does not disclose means for determining displacement of a vehicle based upon the wireless signal. However, Davis et al. disclose an automobile navigation system using real time spoken driving instructions comprising position keeping (col. 11, lines 17-68, and col. 12, lines 1-28) for determining position of a vehicle based upon the wireless signal. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teaching of Davis et al. in the device of Lowe et al. and McLaughlin et al. in order to determine an absolute position of the motor vehicle because they both teach a system for determining displacement of a vehicle.

Regarding claim 12: Lowe et al. disclose the transmitter 28 is mounted on a rotating component of a vehicle (col. 3, lines 2-4).

Regarding claim 15: Lowe et al. disclose the transmitter 28 (figure 2, col. 3, lines 5-28) generating an RF signal.

Regarding claims 16 and 17: Lowe et al. disclose the sensor 30 (figure 2, col. 3, lines 51-67) for generating a signal indication of the number of wheel rotation. The combination fails to show the fixed number of beacon signal is one as claimed. However, it would have been an obvious design choice to have the transmitter generating beacon signal once for each revolution.

Note that the system of Lowe et al. is capable of counting revolution, storing the revolution count information, and transmitting revolution count information.

Regarding claim 18: Lowe et al. disclose the transmitter 28 (col. 2, lines 62-67, and col. 3, lines 1-18) generating a modulated RF signal indicative of vehicle displacement.

Regarding claim 21: Lowe et al. fail to disclose means for calibrating the wireless signal to the vehicle displacement while the vehicle is moving. However, Davis et al. teach that the position system with no error could be calibrated when installed and some dead reckoning systems recalibrate themselves to eliminate systematic errors (map matching) as shown in figure 1, col. 12, lines 32-62. Therefore, it would have been obvious to the skilled artisan to utilize the teaching of Davis et al. in the system of the combination for comparing the actual signal with a standard.

Regarding claim 22: Lowe et al. do not disclose means for dead-reckoning a position of a vehicle based upon the wireless signal. However, Davis et al. disclose the dead-reckoning (col. 11, lines 45-48) for estimating the current position of the vehicle. Therefore, it would have been obvious to the skilled artisan to use the readily dead-reckoning system of Davis et al. into the device of the combination in order to determine the position of a vehicle.

Regarding claim 23: Lowe et al. disclose means 28 for generating a wireless signal indicative of rotational displacement; and a wireless receiver 26 receiving the wireless signal (figure 2, col. 3, lines 5-37). Lowe et al. do not disclose means for propagating a position of a vehicle based upon the wireless signal. However, Davis et al. disclose an automobile navigation system using real time spoken driving instructions comprising position keeping (col. 11, lines 17-68, and col. 12, lines 1-28) for determining position of a vehicle based upon the wireless

signal. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teaching of Davis et al. in the device of Lowe et al. in order to determine an absolute position of the motor vehicle because they both teach a system for determining displacement of a vehicle.

The combination does not show the transmitter including a power source and periodically generating a wireless signal as claimed. It is seen that whether the transmitter continuously or periodically transmits the wireless signal is old and known in the art. Furthermore, McLaughlin et al. disclose a tire monitoring system comprising the monitoring device 16 including a long-life lithium battery (figure 1, col. 4, lines 33-37) and a transmitter periodically transmits the wireless signal (col. 5, lines 5-16). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Lowe et al., Davis et al., and McLaughlin et al. because it would be an advantage to have the monitoring device including power source rather than relying on the external power source.

Regarding claim 24: Lowe et al. and McLaughlin et al. fail to disclose means for calibrating the wireless signal to the vehicle displacement while the vehicle is moving. However, Davis et al. teach that the position system with no error could be calibrated when installed and some dead reckoning systems recalibrate themselves to eliminate systematic errors (map matching) as shown in figure 1, col. 12, lines 32-62. Therefore, it would have been obvious to the skilled artisan to utilize the teaching of Davis et al. in the system of the combination for comparing the actual signal with a standard.

Regarding claim 25: Lowe et al. and McLaughlin et al. fail to disclose a database of roads, the position of the vehicle propagated relative to the database of roads. However, Davis et

al. disclose the map database (col. 3, lines 54-56, and col. 12, lines 47-62). Therefore, it would have been obvious to one of ordinary skill in the art to utilize the teaching of Davis et al. in the system of the combination for estimating the position of a vehicle based on the assumption that the vehicle always on a street present in the map.

Regarding claim 26: Lowe et al. and McLaughlin et al. do not disclose means for dead-reckoning a position of a vehicle based upon the wireless signal. However, Davis et al. disclose the dead-reckoning (col. 11, lines 45-48) for estimating the current position of the vehicle. Therefore, it would have been obvious to the skilled artisan to use the readily dead-reckoning system of Davis et al. into the device of Lowe et al. and McLaughlin et al. in order to determine the position of a vehicle.

Regarding claim 27: Lowe et al. disclose means for generating a wireless signal counts rotations of a vehicle wheel (col. 3, lines 51-54)

Regarding claim 28: The combination does not show means for calibrating rotations of the vehicle wheel to displacement of the vehicle as claimed. However, it would have been an obvious design choice to have the calibrating rotations of the vehicle wheel to displacement of the vehicle in the automobile navigation system.

Regarding claim 29: All the claimed subject matter is already discussed in respect to claim 11 above.

Regarding claim 30: Refer to claim 21 above.

Regarding claim 31: Refer to claim 22 above.

Regarding claim 32: Davis et al. disclose the dead-reckoning the position of the vehicle is based upon the calibrated wireless signal (col. 11, lines 45-59, and col. 12, lines 58-62).

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowe et al. in view of Davis et al. and McLaughlin et al. and further in view of Huang [U.S. Pat. 6,175,302].

Regarding claim 13: The combination does not show the power source generates power based upon rotation. However, Huang discloses the power source 20 generates power based upon motion (col. 3, lines 47-63). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teaching of Huang into the system of Lowe et al. and Davis et al. in order to have a self-provided power generating which is an advantage.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowe et al. in view of Davis et al. and McLaughlin et al. and further in view of Miller et al. [U.S. Pat. 4,694,295].

Regarding claim 14: Lowe et al. disclose the transmitter 28 (figure 1, col. 3, lines 28-37) for generating a signal. The combination fails to disclose the transmitter generating an acoustic signal. However, Miller et al. disclose a vehicle blind spot detector comprising the transducer 22 (figure 2, col. 4, lines 7-18) including a piezo-electric element for generating an acoustic signal. Therefore, it would have been obvious to the skilled artisan to use the readily piezo-electric element of Miller et al. in the system of Lowe et al. and Davis et al. for generating the acoustic signal.

8. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowe et al. in view of Davis et al. and McLaughlin et al. and further in view of Maples [U.S. Pat. 4,833,281].

Regarding claim 19: The combination fails to show a mass movable relative to the vehicle part based upon motion, the wireless signal generated based upon motion of the mass. However, Maples discloses a motion detector comprising the mass in the form of ball 16 (figure 1, col. 1, lines 35-40, and col. 2, lines 18-32) movable relative to the vehicle part based upon motion. Therefore, it would have been obvious to the skilled artisan to use the technique of Maples into the system of the combination because of the compact design, thereby it would be an advantage.

9. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowe et al. in view of Davis et al., McLaughlin et al. and further in view of Maples and Miller et al. [U.S. Pat. 4,694,295]

Regarding claim 20: Lowe et al. disclose the transmitter 28 (figure 1, col. 3, lines 28-37) for generating a signal. Maples disclose the motion detector 10 can be incorporated into the transmitter and the mass in the form of ball 16 (figure 1, col. 1, lines 34-39, and col. 2, lines 18-32). The combination fails to disclose the mass mounted to a piezo-electric device as claimed. However, Miller et al. disclose a vehicle blind spot detector comprising the transducer 22 (figure 2, col. 4, lines 7-18) including a piezo-electric element for generating an acoustic signal. Therefore, it would have been obvious to the skilled artisan to use the readily piezo-electric element of Miller et al. in the system of the combination for generating the acoustic signal.

Response to Arguments

10. Applicant's arguments with respect to claims 1-3, and 5-32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phung Nguyen whose telephone number is (703)308-6252. The examiner can normally be reached on Monday to Friday from 8:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J. Wu, can be reached on (703)308-6730. The fax number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Examiner: Phung Nguyen

Date: March 10, 2004

DANIEL J. WU
PRIMARY EXAMINER
3/20/04